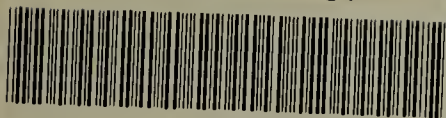


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Massachusetts
Lobster Fishery
Statistics

Thomas B. Hoopes



MASSACHUSETTS
DIVISION OF MARINE FISHERIES

**1988
MASSACHUSETTS
LOBSTER FISHERY
STATISTICS**

by
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Technical Series 23

A contribution of
Commercial Fisheries Research and Development
(P.L. 88-309) Project 3-416-D

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
John P. DeVillars, Secretary
Department of Fisheries, Wildlife and Environmental Law Enforcement
Walter E. Bickford, Commissioner
Division of Marine Fisheries
Philip G. Coates, Director

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INTRODUCTION

The commercial lobster fishery of Massachusetts is, economically, the most important fishery conducted within the territorial waters of the Commonwealth. The overall economic importance of the fishery both in New England and, in recent years, the Mid-Atlantic states, has focused the attention of Federal, Regional and State fishery managers on this species. Initially, in an attempt to standardize management of the fishery, the Federal and State Governments developed an overall lobster fishery management plan under the auspices of the State-Federal Partnership Program. However, with the passage of the Fisheries Management and Conservation Act, the New England Fisheries Management Council, in cooperation with the Mid-Atlantic Council, has developed and implemented a management plan for the entire east coast lobster fishery. The basis and success of any such plan is an accurate statistical data base. The Commonwealth of Massachusetts, with joint funding from the National Marine Fisheries Service, has been collecting annual reports from licensed lobster fishermen for many years. Historically, the data collected was used primarily for descriptive and informational purposes, and occasionally for management. However, with the recent emphasis on Federal management, these data take on added importance in terms of providing the respective management agencies with adequate information to insure that the interests of Massachusetts' lobstermen are protected.

During the period 1975 - 1980, the number of coastal commercial lobster permits was limited, by law, to 1300, with an additional ten percent issued to proven hardship cases. In 1981, a statutory change provided for the establishment of a permanent waiting list from which 100 new permits were issued. In addition, 30 special additional permits were awarded to full time commercial fishermen who met certain criteria. In subsequent years 80 list permits and 20 special additional permits have been issued until 1988, when the issuance of new coastal permits was suspended. Permits which are not renewed are retired.

This report is the twenty - second annual publication of data summarized from catch reports submitted by licensed lobster fishermen. Data were presented in a standardized format through 1979. In 1980, presentation was changed to reflect a more thorough collection and evaluation of the submitted information. This publication represents the third year in which data processing and evaluation were completely computerized. It perpetuates the existing time series, and expands upon areas not addressed in previous years. All data elements presented in previous reports are presented here, although they may not be in the same tabular format. This report does not, however, cover the scope of the Project's existing database and computational capability. Requests for expanded information, or questions concerning this publication, should be made to the Division's Statistics Project in Salem, MA: (508) 745-3113.

This report has been prepared by personnel from the Division of Marine Fisheries Statistics and Data Processing Project, funded jointly by the Commonwealth and the National Marine Fisheries Service under the Commercial Fisheries Research and Development Act (Public Law 88-309). The preparation of this report would not have been possible without the cooperation of licensed

lobstermen who provided the information on their annual reports. Special thanks go to Ann Spires for her virtually error-free data entry and to Gerald Nash for his help in mainframe computing where the information is stored. Thanks also go to Charles Anderson for his continual help with system development, upgrades and suggestions concerning this publication.

SOURCE OF DATA

No person may fish for or take lobster in coastal waters or land lobster in the Commonwealth without a permit issued by the Director of the Division of Marine Fisheries (Chapter 130, Mass. G.L., Section 38). Chapter 130, Mass. G.L., Section 33, requires any person so licensed to file an annual report of their catch by January 31 for the preceding calendar year. In 1980, a dual reporting system was established. Commercial lobstermen (coastal, offshore and seasonal(student)) received a detailed catch report form with their license renewal application. This report requests the following information: method of fishing; number and type of gear used; effort data (set-over days, number of trips per month, etc.); pounds of lobster taken; areas fished; principal ports of landing; and information relative to the vessels and traps used in the fishery. Recreational fishermen are asked to report on their license renewal application form the number of lobsters taken during the previous year and the maximum number of traps fished. However, due to the fact that recreational licenses are not processed completely at the time of publication, an addendum will be published at a later date.

Each year 150 Coastal Lobstermen are selected and audited for the records used to complete the catch portion of their catch report. The Division does this to assess the amount of error involved in the reporting process. Selection is done randomly except when fishermen fail an audit. In these cases, they are audited again the following year. The audit was first instituted in 1977 for the 1976 catch reports. Over the last five years the lobstermen selected for audit reported landing 5,200,543 pounds. The audit of their records revealed a harvest of 5,154,042 pounds or a difference of 0.90%.

Project personnel sort, edit, tabulate and interpret data from all reports received. Data presented in this publication are based on catch reports actually received as of May 16, 1989, and are not expanded to represent all of the permits issued in 1988.

EXPLANATION OF TABLES

All data presented in this publication are broken down into two basic categories: the first is "inshore" which represents data pertaining to all lobster activity taking place within 69 degrees West Longitude and 41 degrees North Latitude (Areas 1-12 on Figure 2); the "offshore" category refers to all data outside those coordinates (Area 13 on Figure 2). This is *not* to be confused with the offshore *license* category

which allows fishermen to harvest lobster outside the territorial waters line (approximately 3 miles from shore) only, a line that falls within the inshore category. Below is a brief definition of each license type:

Coastal Commercial: Allows the holder to harvest lobster anywhere, most importantly inside territorial waters.

Offshore Commercial: Allows the holder to harvest lobster outside territorial waters only.

Seasonal Commercial: Allows the holder, if he or she is a student to harvest lobster anywhere, but with a maximum of 25 traps and only during the months June - September.

Non-commercial: Allows the holder to harvest lobster anywhere but with a maximum of only 10 traps (if fishing traps) and cannot sell catch.

Tables presenting number of fishermen, number of pots fished, number and value of boats used in the fishery and total landings statewide, by county and license type, and for each city and town were prepared using the catch reports submitted by commercial fishermen. In keeping with Division policy, some of the data are masked or combined to protect the confidentiality of the individual submitting the report. Data referring to the number of fishermen, number and value of gear, and number and value of boats are presented by the home port of the licensee filing the report. Pounds of lobster harvested are presented by the port of landing reported by the fishermen.

In years past the category "*did not catch lobster*", as presented in Tables 1 and 2, was termed "*did not fish*". This presented a problem with certain fishermen who did not actually direct their efforts or "*fish*" for lobster, but caught them incidentally. They would complete their reports claiming they didn't fish for lobster when they did in fact catch them. The 1988 catch report was worded differently. It asked whether lobster was caught or not. It was felt that although this might disrupt the data time series in the "offshore" license category, it was more important to know what was actually being caught.

Vessel and SCUBA gear values were calculated on the basis of the fishermen's estimate of its present value and the percentage of its use specifically for lobstering. Average values were used when the information was omitted from an individual report. The legal size of a lobster was increased in 1988 to 3 7/32 inches from 3 3/16 in 1987, the only increase in 28 years. When fishermen reported the number of lobsters taken, rather than poundage, a conversion factor of 1.24 pounds per lobster was used to calculate poundage figures. This figure is based on information collected by the Division's Commercial Lobster Investigations Project. For information on biological (average carapace length, sex ratios, percent of egg-bearing lobster in catch etc.) and other parameters (mortality and exploitation rates) contact this project in Sandwich, MA at (508) 888-1155.

Where tables refer to county, the reader is referred to Figure 10.

1988 HIGHLIGHTS

1. There were 15,545 lobster licenses of all types issued during 1988: 1,832 coastal commercial; 795 offshore commercial; 99 seasonal commercial and 12,819 non-commercial. As of May 16, 1989, a total of 190 licensed commercial lobstermen (7 percent) failed to file a catch report with the Division. Of the 2,726 commercial fishermen who reported, 724 or 27 percent claimed they did not catch any lobster during 1988. See Table 1 for a summary of the reporting status and Table 2 for a five year comparison.

2. A total of 14,262,798 pounds of lobster were reported landed by commercial lobstermen. Based on a value of \$3.14 per pound (see Figure 1.), the commercial catch was valued at \$44,785,186. The coastal license holders were responsible for landing 12,041,449 pounds, or 84.4 percent of the commercial catch. See Table 3 for a breakdown of pounds landed and number of fishermen by license type and county.

3. Of the 14,262,796 pounds of lobster landed commercially, 12,345,100 were reported taken inside of 69 degrees West and 41 degrees North (inshore), and of that number, 9,700,058 pounds (79% of inshore catch, or 68% of total catch) were estimated to have been taken within the territorial waters of the Commonwealth.

4. In total pounds of lobster landed, Essex County ranked first, Plymouth County second and Suffolk County third. Boston ranked first in total pounds landed followed by Gloucester, Plymouth and Beverly. In total numbers of active commercial fishermen, Essex County ranked first with 719, Plymouth County second with 382 and Bristol County third with 218. Gloucester ranked first in active fishermen followed by Boston, New Bedford and Plymouth. See Tables 3 and 6, (the shaded areas in Table 6 refer to the top 10 cities in at least one of the two categories).

5. In the commercial fishery, pots were valued at \$20,080,768, diving gear at \$45,956, and power and non-power boats at \$53,390,952, yielding a total gear value of \$73,517,676. Combined with the value of lobster sold, \$44,785,186, gives a total fishery value of \$118,302,862. See Tables 3, 5 and 10.

6. Information concerning the type and value of traps fished was collected from the annual catch reports. Overall, 61% of the traps fished in the commercial fishery were wire framed, with 38% being wooden framed and less than 1% categorized as "other". Average value (including warp and buoy) ranged anywhere from \$30.40 to \$85.00, with an overall average of \$43.41. The number of traps fished in 1988 totalled 460,031, a slight increase over 1987. See Tables 4 and 10.

7. Inshore landings by commercial fishermen were concentrated during the months July through December when 79 percent of the yearly harvest was landed. See Figures 3 and 4 and Table 8. It is interesting to note that more lobster was landed in the latter months of the year (September - December) compared to 1987. This shift may be attributed to the average molting time occurring later in the year, when previously sub-legal sized lobster molt and grow into the legal size category.

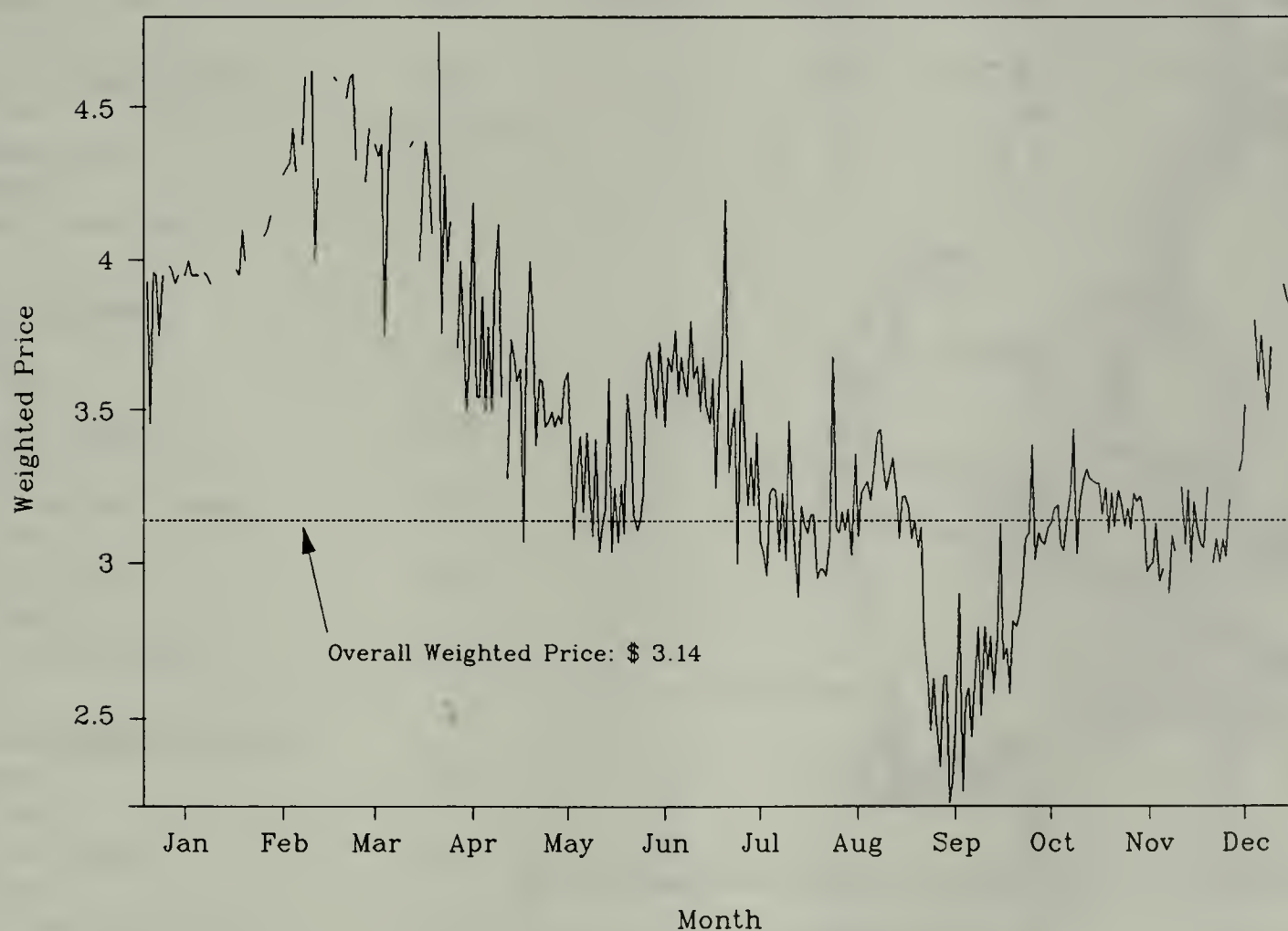
These four months alone comprised 58 percent of the year's landings.

8. The greatest harvest of lobster taken inshore was from the Boston Harbor area (Area 4) followed by the Beverly - Salem - Marblehead area (Area 3) and the Plymouth area (Area 5). See Figures 2, 5 and 6 and Table 9 for a complete breakdown by area for each license type.

9. The average catch per trap haul for coastal lobstermen was 0.6478 pounds. For traps fished one set-over day the average was 0.3267; for those fished two days 0.5535; for three days 0.5783; and for four days 0.6739. See Figure 9 for catch effort by set-over day. Figures 7 and 8 reflect the average catch per trap haul - set-over day for area fished and month, where set-over day is factored into the denominator. In this case the overall potmen average was .2137.

10. Last year the fishermen selected for audit reported harvesting 1,181,621 pounds of lobster on their 1987 catch reports. The audit of their actual records showed total landings of 1,163,911 pounds, a difference of 12,290 pounds or 1.07 percent. Random audit of the 1988 reports was taking place at time of publication.

Figure 1. 1988 Massachusetts Commercial Lobster Fishery; Average Weighted Ex-Vessel Price Derived from Audited Lobstermen's Records



Total number of observations = 1,388.

Gaps in line represent missing prices for that date.

Lobstering Areas

Between
Areas

Boundaries

1 & 2	Castle Neck, Ipswich
2 & 3	Goldsmith Point, Manchester
3 & 4	Red Rock, Lynn
4 & 5	Tobias Ledge (Spindle), Scituate
5 & 6	High Pines Ledge, Plymouth
6 & 7	Scussett Beach, Sandwich
7 & 8	Griffin Island, Wellfleet
8 & 9	Harwich/Chatham Line
9 & 10	Waquoit Bay, Falmouth - Cape Poge, M.V. - Muskeget Island
10 & 11	Mass./R.I. Line - Gay Head

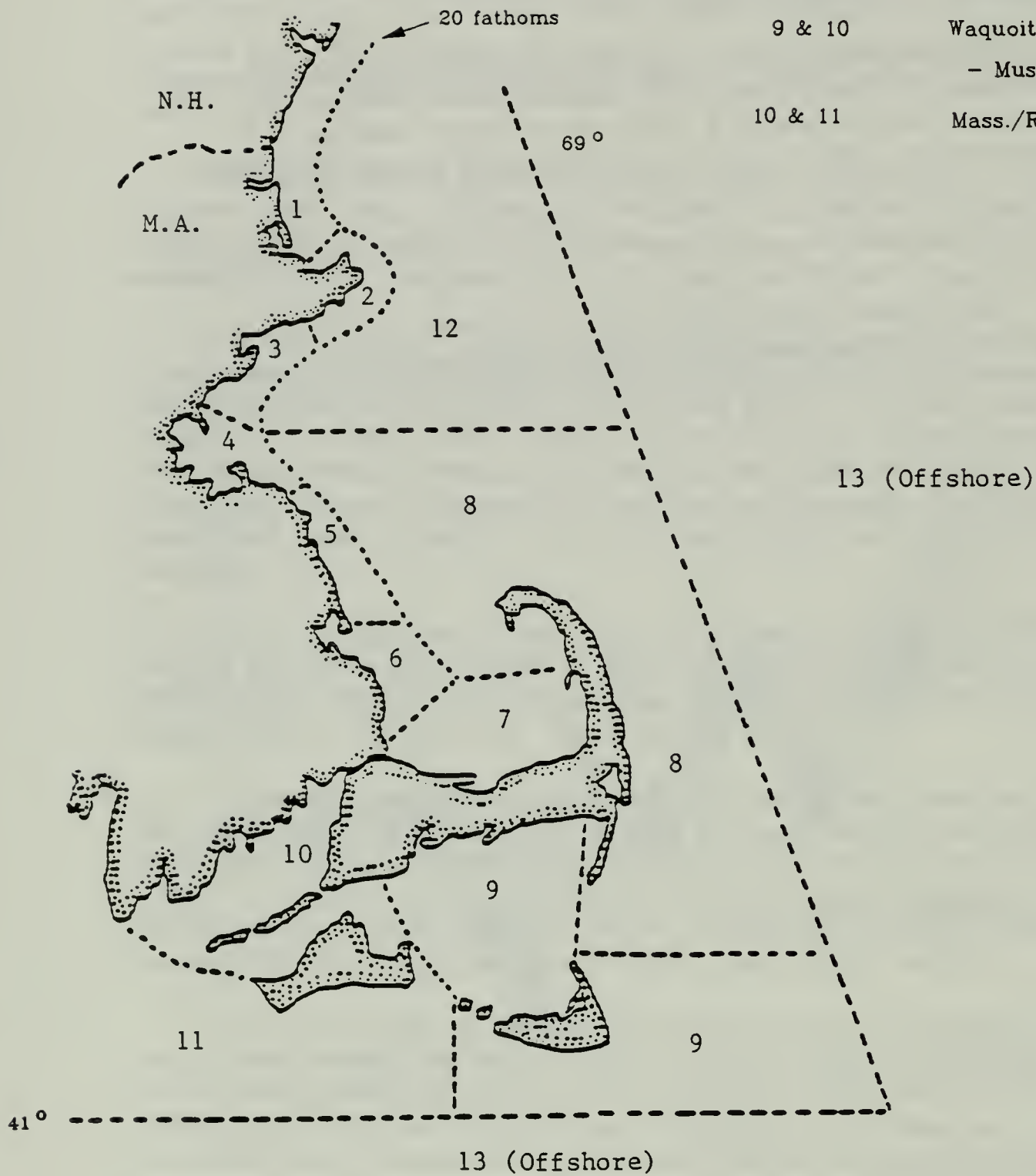


Figure 2. Location and Description of Coastal Lobster Fishing Areas in Massachusetts

Table 1. 1988 Massachusetts Commercial Lobster Fishery; Reporting Status of Licenses Issued

<u>License Type</u>	<u>Licenses Issued</u>	<u>Total Value</u>	<u>Reported "Catching Lobster"</u>		<u>Reported "No Lobster Catch"</u>		<u>Not Reporting</u>	
Coastal Commercial (\$ 200)	1,832	\$366,400	1,436	78 %	362	20 %	34	2 %
Offshore Commercial (\$ 200)	795	\$159,000	323	41 %	347	44 %	125	16 %
Seasonal (Student) Commercial (\$ 50)	99	\$4,950	53	54 %	15	15 %	31	31 %
Total	2,726	\$530,350	1,812	66 %	724	27 %	190	7 %

Non-Commercial figures unavailable at time of printing, an addendum will be inserted when information is available.

Table 2. Massachusetts Commercial Lobster Fishery; Selected Licensing Information, 1984 - 1988

	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>Percent Five Year Change</u>
<u>Coastal Licenses</u>						
Issued	1,697	1,744	1,803	1,877	1,832	7.96
% Change		2.77	3.38	4.10	-2.40	
"Caught Lobster"	1,353	1,368	1,418	1,434	1,436	6.13
% Change		1.11	3.65	1.13	0.14	
"Did Not Catch Lobster"	296	349	359	409	362	22.30
% Change		17.91	2.87	13.93	-11.49	
Not Reporting	30	27	26	34	34	13.33
% Change		-10.00	-3.70	30.77	0	
Percent Not Reporting	2	2	1	2	2	
<u>Offshore Licenses</u>						
Issued	688	673	711	764	795	15.55
% Change		-2.18	5.65	7.45	4.06	
"Caught Lobster"	174	167	294	291	323	85.63
% Change		-4.02	76.05	-1.02	11.00	
"Did Not Catch Lobster"	355	347	270	319	347	-2.25
% Change		-2.25	-22.19	18.15	8.78	
Not Reporting	159	159	147	161	125	-21.38
% Change		0.00	-7.55	9.52	-22.36	
Percent Not Reporting	23	24	21	21	16	
<u>Seasonal (Student) Licenses</u>						
Issued	227	188	171	131	99	-56.39
% Change		-17.18	-9.04	-23.39	-24.43	
"Caught Lobster"	116	108	88	60	53	-54.31
% Change		-6.90	-18.52	-31.82	-11.67	
"Did Not Catch Lobster"	19	15	13	9	15	-21.05
% Change		-21.05	-13.33	-30.77	66.67	
Not Reporting	92	65	70	63	31	-66.30
% Change		-29.35	7.69	-10.00	-50.79	
Percent Not Reporting	41	35	41	48	31	

Table 3. 1988 Massachusetts Commercial Lobster Fishery; Number of Fishermen, Harvest (Lbs.) and Value of Harvest

AREA:	INSHORE (Inside 69°W 41°N (Areas 1-12))						OFFSHORE (Outside 69°W 41°N (Area 13))					
LICENSE TYPE:	COASTAL			SEASONAL			OFFSHORE			COASTAL		
GEAR TYPE:	Diver	Potman	Potman/ Diver	Trawl or Gillnet	Potman	Trawl/ Gillnet	Potman	Trawl/ Gillnet	TOTAL INSHORE	Potman	Potman Trawl	TOTAL OFFSHORE
-- COUNTY --												
BARNSTABLE												
Fishermen	3	140	8		5	27	4		187		7	14
Pounds	4,446	804,061	23,217	1,372	820	47,457	211,325	47,457	1,092,698	115,193	568,192	707,598
Value (\$)	13,960	2,524,752	72,901	4,308	2,575	149,015	663,561	149,015	3,431,072	361,706	1,784,123	2,221,858
BRISTOL												
Fishermen		90			3	29	9		131	3	76	86
Pounds		598,882	4,080		768	58,004	167,766	58,004	829,500	171,073	448,033	746,648
Value (\$)	0	1,880,489	12,811	0	2,412	182,133	526,785	182,133	2,604,630	537,169	1,406,824	2,344,475
DUKES												
Fishermen		26					6		32			0
Pounds		133,732	1,684		225	423	34,321	423	170,385	12,473	5,631	20,738
Value (\$)	0	419,918	5,288	0	707	1,328	107,768	1,328	535,009	39,165	17,681	65,117
ESSEX												
Fishermen		603	8	4	18	63	7		703		11	11
Pounds	429	4,901,941	18,412	2,432	1,179	82,070	2,671	82,070	5,009,134	47,310	126,300	203,106
Value (\$)	1,347	15,392,095	57,814	7,636	3,702	257,700	8,387	257,700	15,728,681	148,553	396,582	637,753
NANTUCKET												
Fishermen		5							5			0
Pounds		42,068				90			42,158	783		783
Value (\$)	0	132,094	0	0	0	283	0		132,376	2,459	0	2,459
NORFOLK												
Fishermen		65	5		3				73			0
Pounds		814,872	25,835		608				841,315		960	960
Value (\$)	0	2,558,698	81,122	0	1,909	0	0		2,641,729	0	0	3,014
PLYMOUTH												
Fishermen		315	16	5	19	16	5		376			0
Pounds	730	2,439,014	87,093	3,568	4,011	42,741	8,535	42,741	2,585,692	4,038	153,040	159,647
Value (\$)	2,292	7,658,504	273,472	11,204	12,595	134,207	26,800	134,207	8,119,073	12,679	480,546	501,292
SUFFOLK												
Fishermen		127			3	18			148		12	12
Pounds	20,814	1,724,700			421	28,283			1,774,218	37,197	6,000	78,218
Value (\$)	65,356	5,415,558	0	0	1,322	88,809	0		5,571,045	116,799	18,840	245,605
STATE TOTAL *												
Fishermen	8	1,371	39	10	53	153	31		1,665	7	18	135
Pounds	26,419	11,459,270	160,321	7,372	8,032	259,068	424,618	259,068	12,345,100	388,067	1,307,196	1,917,698
Value (\$)	82,956	35,982,108	503,408	23,148	25,220	813,474	1,333,301	813,474	38,763,614	1,218,530	4,104,595	6,021,572
OUT OF STATE												
Fishermen						3			3		6	6
Pounds		6,750				1,200	4,756	1,200	12,706		162,076	166,153
Value (\$)	0	21,195	0	0	0	3,768	14,934	3,768	39,897	0	508,919	521,720

* Row and column totals may not equal the sum of the rows or columns due to masking of the data.

Value is based on an average ex-vessel price of \$3.14 (See Figure 1).

Table 6. 1988 Massachusetts Commercial Lobster Fishery; Number of Fishermen
(Except Seasonal) and Landings by Homeport, Inshore and Offshore

TOWN	FISHERMEN NUMBER	RANK	POUNDS INSHORE	POUNDS OFFSHORE	----- POUNDS	TOTAL PERCENT	----- RANK
BARNSTABLE-YARMOUTH	14	28	166,127	241,154	407,281	2.86	15
BEVERLY	47	10	777,986	23,388	801,374	5.62	4
BOSTON	119	2	1,517,055	78,218	1,595,274	11.19	1
BOURNE	9	33	38,018		38,018	0.27	40
CHATHAM	26	21	153,874	465	154,339	1.08	24
CHILMARK-W. TISBURY	23	23	141,819	20,048	161,867	1.14	23
COHASSET	46	11	611,567		611,567	4.29	7
DANVERS	19	26	95,806	7,749	103,555	0.73	29
DARTMOUTH	19	26	49,171		49,171	0.34	37
DENNIS	19	26	62,292		62,292	0.44	33
DUXBURY	8	34	52,859		52,859	0.37	34
ESSEX	12	30	13,536		13,536	0.09	46
FAIRHAVEN-ACUSHNET	43	12	111,834	432,013	543,847	3.82	9
FALMOUTH	11	31	24,011		24,011	0.17	43
GLOUCESTER	231	1	1,108,210	164,787	1,272,997	8.93	2
GOSNOLD	4	36	10,036		10,036	0.07	48
HARWICH	5	35	46,685	63,690	110,375	0.77	27
HINGHAM	31	18	452,359	475	452,834	3.18	13
HULL	35	16	302,946		302,946	2.13	20
IPSWICH	22	24	39,468		39,468	0.28	39
KINGSTON	8	34	24,410		24,410	0.17	42
LYNN	20	25	323,255		323,255	2.27	19
MANCHESTER	37	15	260,425		260,425	1.83	21
MARBLEHEAD	66	7	535,466	955	536,421	3.76	10
MARSHFIELD	80	5	626,972	1,537	628,509	4.41	6
MATTAPOISETT	13	29	47,589	2,026	49,615	0.35	36
NAHANT	33	17	474,501		474,501	3.33	12
NANTUCKET	5	35	42,158	783	42,941	0.30	38
NEW BEDFORD	113	3	239,488	133,666	373,154	2.62	17
NEWBURYPORT-NEWBURY	30	19	51,809		51,809	0.36	35
ORLEANS-EASTHAM	24	22	90,369	256	90,625	0.64	30
PLYMOUTH	108	4	651,021	154,057	805,078	5.65	3
PROVINCETOWN	41	13	125,710	209	125,919	0.88	26
QUINCY-BRAINTREE	16	27	65,884	960	66,844	0.47	32
REVERE-CHELSEA	10	32	109,958		109,958	0.77	28
ROCKPORT	61	8	325,850	150	326,000	2.29	18
ROWLEY	3	37	2,136		2,136	0.01	49
SALEM	19	26	68,576		68,576	0.48	31
SALISBURY	8	34	13,045		13,045	0.09	47
SANDWICH	40	14	360,854	401,824	762,678	5.35	5
SAUGUS-MEDFORD	57	9	506,292		506,292	3.55	11
SCITUATE	69	6	388,078	1,552	389,629	2.73	16
SWAMPSCOTT	37	15	414,066	6,077	420,143	2.95	14
TISBURY-OAK BLUFFS	8	34	18,305	690	18,995	0.13	45
TRURO-WELLFLEET	10	32	23,938		23,938	0.17	44
WAREHAM-MARION	11	31	32,664		32,664	0.23	41
WESTPORT-FALL RIVER-SWANSEA	40	14	428,239	180,969	609,208	4.27	8
WEYMOUTH	8	34	163,256		163,256	1.15	22
WINTHROP	29	20	145,844		145,844	1.02	25
STATEWIDE TOTAL	1,747		12,335,815	1,917,698	14,253,513	100.00	
OUT OF STATE	12		12,706	166,153	178,859		

Shaded areas refer to towns which rank in top 10 for one or both of the categories.

**Table 7. Massachusetts Commercial Lobster Fishery;
Selected Landings (Lbs.) and Effort Statistics, 1984 – 88**

	1984	1985	1986	1987	1988	Percent Five Year Change
Total Landings	12,259,311	14,203,083	14,690,452	13,384,566	14,262,798	16.34
<i>Percent Change</i>		15.86	3.43	-8.89	6.56	
Total Traps Fished	386,764	404,662	427,819	459,360	460,031	18.94
<i>Percent Change</i>		4.63	5.72	7.37	0.15	
Total Value	\$31,996,802	\$35,081,615	\$36,873,035	\$40,515,081	\$44,785,186	39.97
<i>Percent Change</i>		9.64	5.11	9.88	10.54	
Territorial Landings	8,019,727	10,303,792	10,634,231	9,371,224	9,700,058	20.95
<i>Percent Change</i>		28.48	3.21	-11.88	3.51	
INSHORE						
Landings	10,088,499	12,399,745	12,918,388	11,510,379	12,345,100	22.37
<i>Percent Change</i>		22.91	4.18	-10.90	7.25	
Inshore Value	\$26,330,982	\$30,627,370	\$32,425,154	\$34,841,917	\$38,763,614	47.22
<i>Percent Change</i>		16.32	5.87	7.45	11.26	
Fixed Gear Landings	9,869,820	12,199,353	12,580,793	11,243,043	12,052,241	22.11
<i>Percent Change</i>		23.60	3.13	-10.63	7.20	
Inshore Traps Fished	354,888	375,172	399,808	427,018	433,360	22.11
<i>Percent Change</i>		5.72	6.57	6.81	1.49	
Mobile Gear Landings	207,993	178,789	306,035	241,986	266,440	28.10
<i>Percent Change</i>		-14.04	71.17	-20.93	10.11	
OFFSHORE						
Landings	2,170,812	1,803,338	1,772,064	1,874,187	1,917,698	-11.66
<i>Percent Change</i>		-16.93	-1.73	5.76	2.32	
Offshore Value	\$5,665,819	\$4,454,245	\$4,447,881	\$5,673,164	\$6,021,572	6.28
<i>Percent Change</i>		-21.38	-0.14	27.55	6.14	
Fixed Gear Landings	2,042,943	1,747,258	1,578,679	1,686,856	1,695,263	-17.02
<i>Percent Change</i>		-14.47	-9.65	6.85	0.50	
Offshore Traps Fished	31,876	29,490	28,011	32,342	26,671	-16.33
<i>Percent Change</i>		-7.49	-5.02	15.46	-17.53	
Mobile Gear Landings	127,869	56,080	193,385	187,331	222,435	73.96
<i>Percent Change</i>		-56.14	244.84	-3.13	18.74	
Average Value (\$) / Pound	2.61	2.47	2.51	3.03	3.14	
<i>Percent Change</i>		-5.36	1.62	20.60	3.73	
Ave. Lbs. / Trap-Haul	0.5050	0.6490	0.6907	0.6304	0.6478	
<i>Percent Change</i>		28.51	6.43	-8.73	2.76	
Ave. Lbs. / Trap	30.80	34.46	33.10	28.15	29.88	
<i>Percent Change</i>		11.89	-3.97	-14.95	6.17	

Figure 3. 1988 Massachusetts Commercial Lobster Fishery
Total Monthly Inshore Harvest by License Type

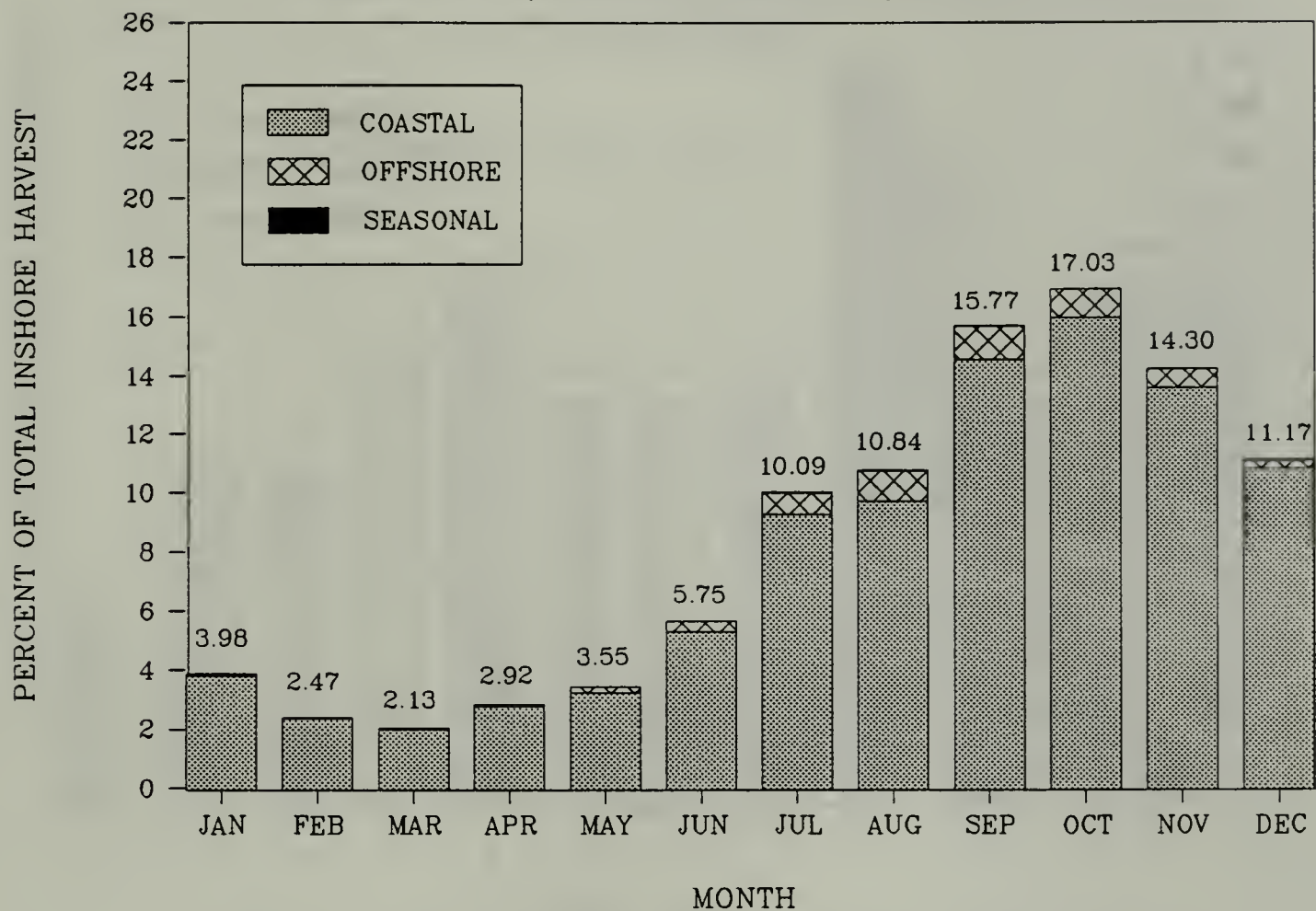


Figure 4. 1988 Massachusetts Commercial Lobster Fishery
Percent Monthly Inshore Harvest for Each License Type

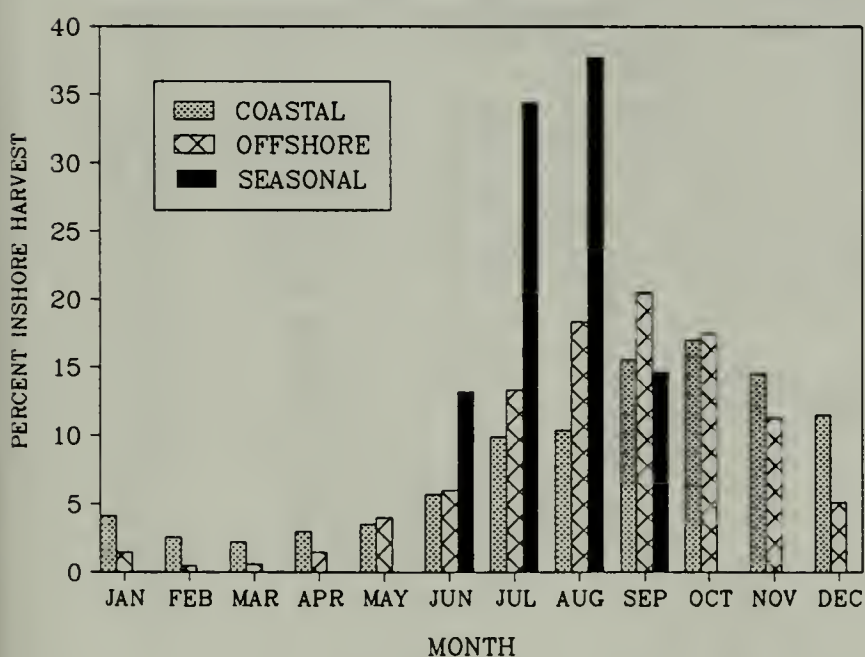


Table 8. 1988 Massachusetts Commercial Lobster Fishery; Percent Monthly Inshore Harvest for Each License Type

Month	Coastal	Offshore	Seasonal
January	4.13	1.45	
February	2.59	0.50	
March	2.22	0.60	
April	3.01	1.45	
May	3.52	4.02	
June	5.73	5.99	13.24
July	9.88	13.30	34.41
August	10.38	18.36	37.70
September	15.50	20.47	14.65
October	17.02	17.47	
November	14.49	11.26	
December	11.53	5.13	
Total	100.00	100.00	100.00

Figure 5. 1988 Massachusetts Commercial Lobster Fishery
Total Inshore Harvest by Area Fished and License Type

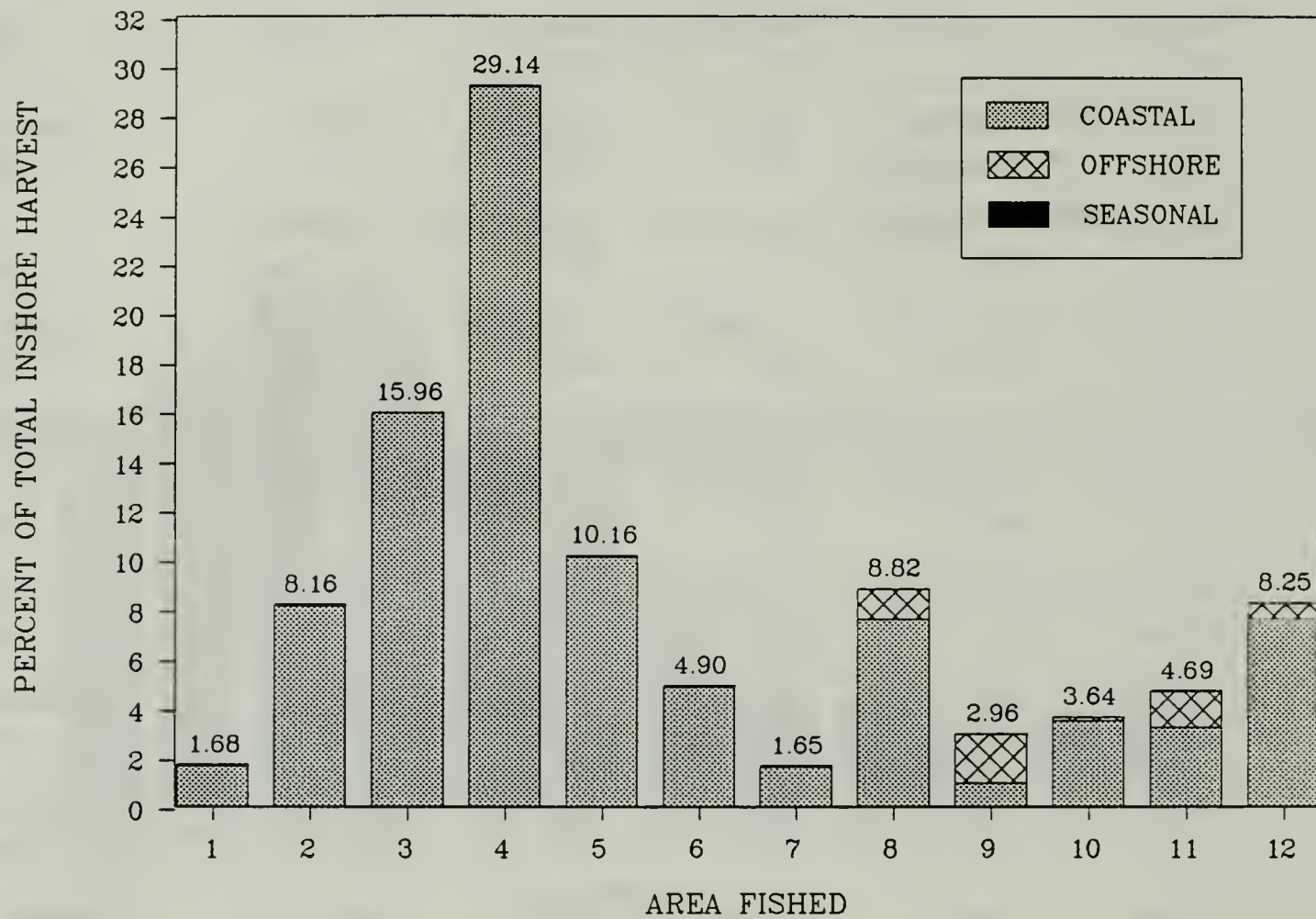


Figure 6. 1988 Massachusetts Commercial Lobster Fishery
Percent Inshore Harvest by Area Fished for Each License Type

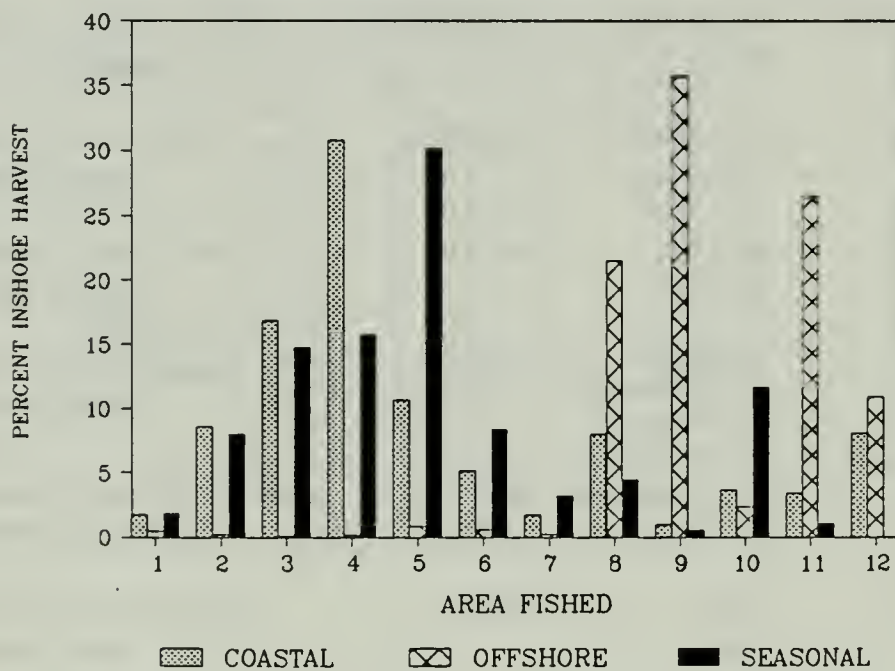


Table 9. 1988 Massachusetts Commercial Lobster
Fishery; Percent Inshore Harvest
by Area Fished for Each License Type

Area Fished	Coastal	Offshore	Seasonal
1	1.75	0.52	1.88
2	8.62	0.26	8.01
3	16.90	0.14	14.83
4	30.86	0.21	15.77
5	10.69	0.87	30.12
6	5.15	0.64	8.38
7	1.73	0.23	3.20
8	8.07	21.54	4.50
9	1.02	35.75	0.57
10	3.71	0.13	11.67
11	3.41	26.50	1.06
12	8.10	10.98	0.00
Total	100.00	100.00	100.00

Figure 7. 1988 Massachusetts Commercial Lobster Fishery
Catch Per Unit of Effort For All License Types by Area Fished

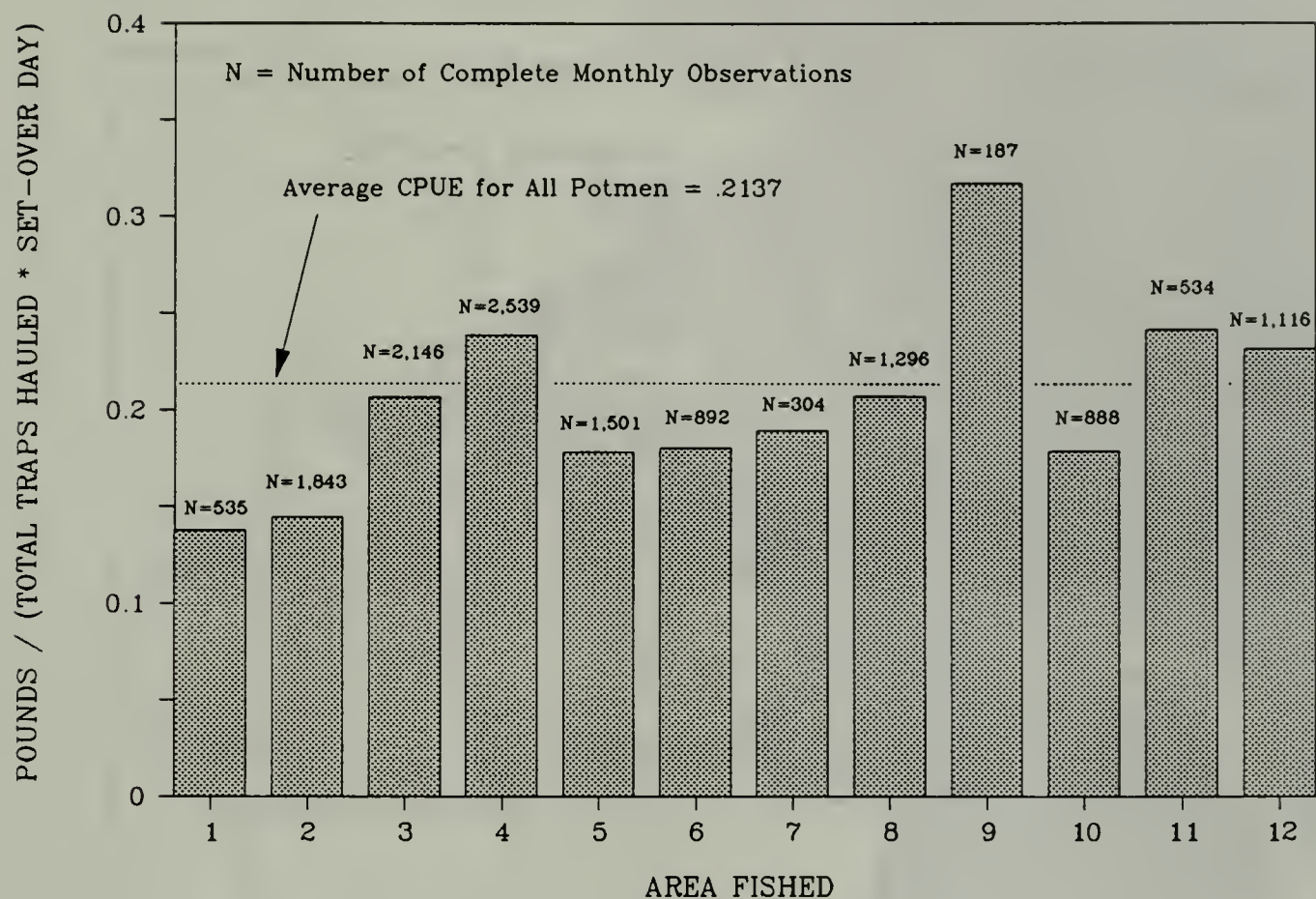


Figure 8. 1988 Massachusetts Commercial Lobster Fishery
Catch Per Unit of Effort for Both Coastal and All Potmen by Month

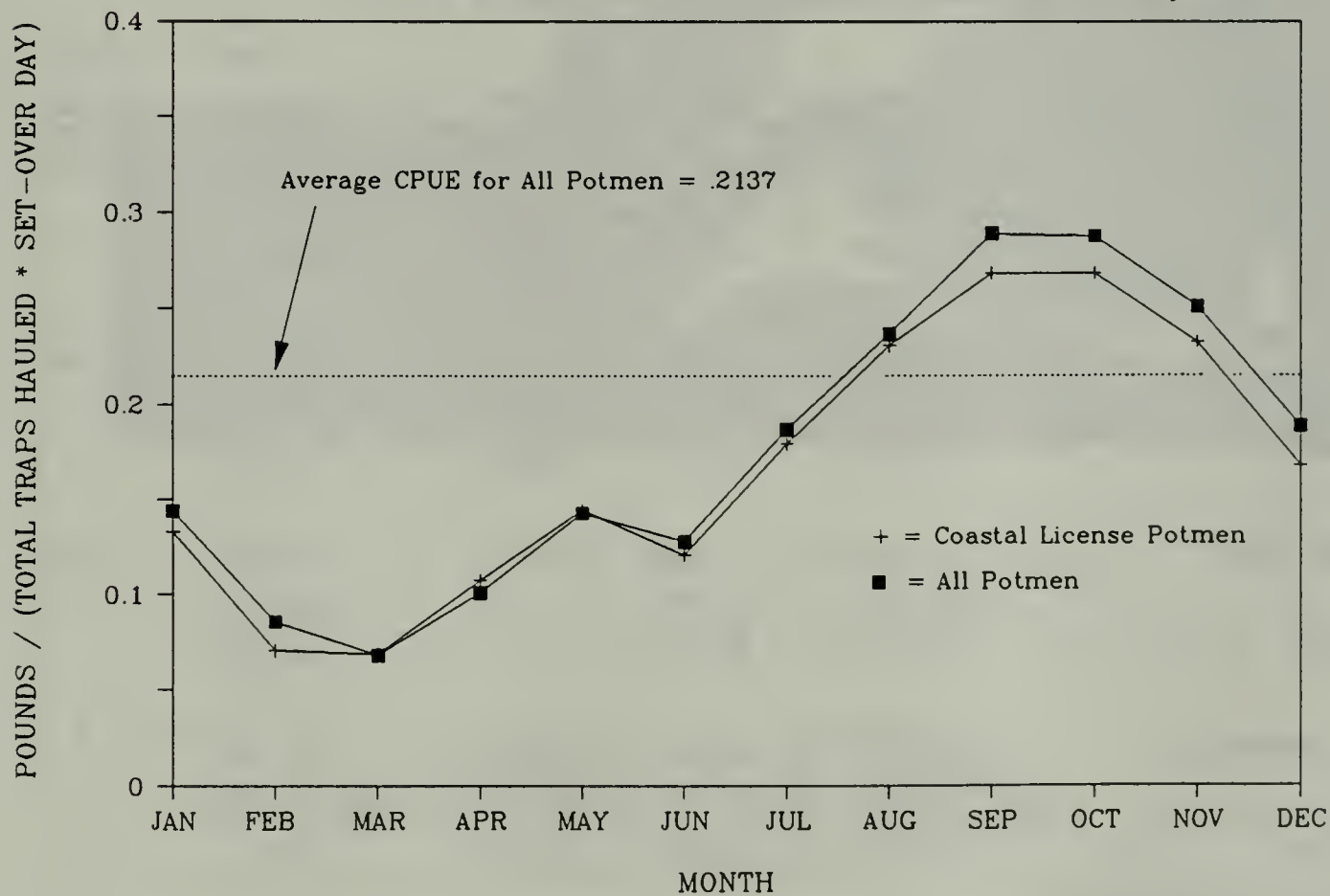


Figure 9. 1988 Massachusetts Commercial Lobster Fishery; CPUE by Set-Over Day for Coastal and All Potmen

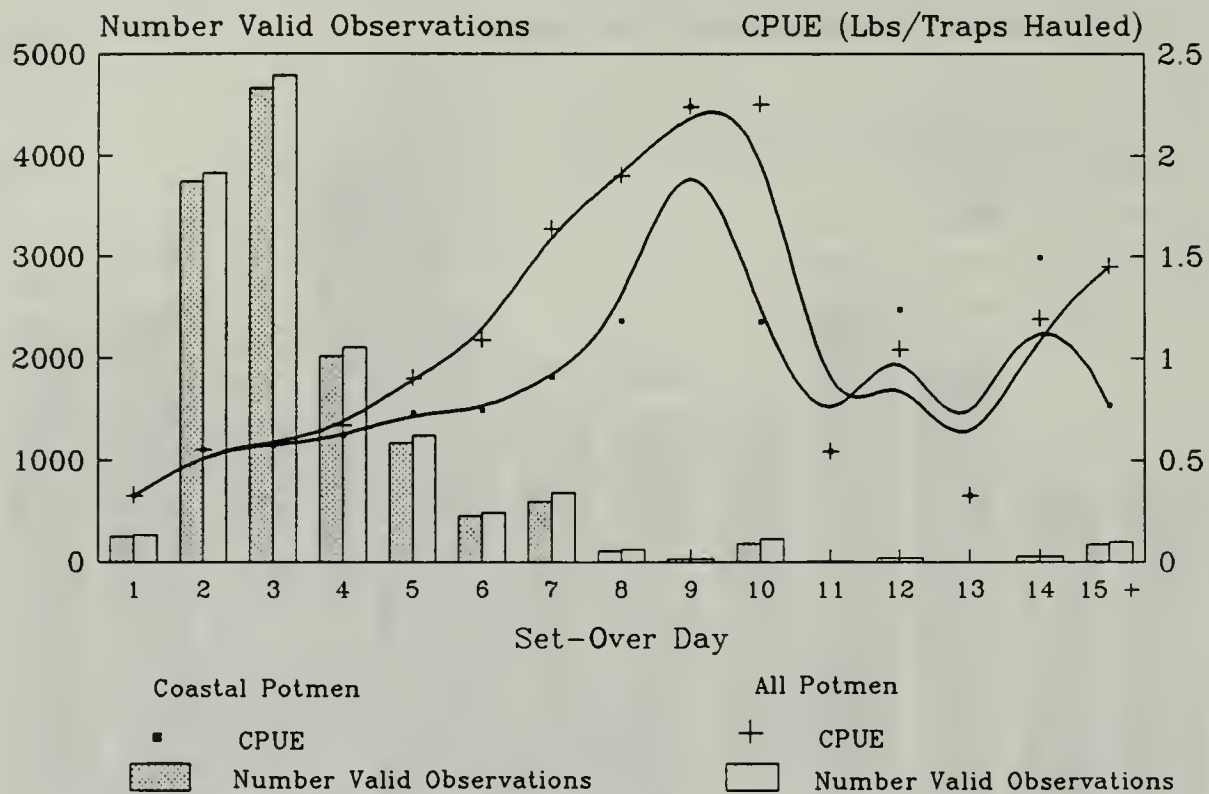


Table 10. 1988 Massachusetts Commercial Lobster Fishery; Trap Types Fished and Value for Each License Type

	Coastal	Offshore	Seasonal	Total Trap Type	Percent of Total
Wooden Framed Traps	163,731	13,746	291	177,769	38.53%
Value	\$6,930,285	\$1,006,747	\$8,860	\$7,945,891	
Value/Trap	\$42.33	\$73.24	\$30.40	\$44.70	
Wire Framed Traps	267,244	14,236	791	282,270	61.18%
Value	\$11,075,157	\$887,280	\$25,804	\$11,988,241	
Value/Trap	\$41.44	\$62.33	\$32.64	\$42.47	
Other Trap Types	601	700	0	1,301	0.28%
Value	\$20,625	\$59,500		\$80,125	
Value/Trap	\$34.33	\$85.00		\$61.60	
Total for License Type	431,576	28,682	1,082	461,340	
Value	\$18,026,067	\$1,953,527	\$34,664	\$20,014,258	
Value/Trap	\$41.77	\$68.11	\$32.04	\$43.38	

Value of trap includes warp and buoy.



Figure 10. Coastal Map of Massachusetts
Showing Statistical Reporting Areas (Counties)

- | | | | |
|------------|-------------|---------------|--------------|
| 1. Essex | 3. Norfolk | 5. Bristol | 7. Dukes |
| 2. Suffolk | 4. Plymouth | 6. Barnstable | 8. Nantucket |

Addendum: 1989 Massachusetts Recreational Lobster Fishery; License Status and Harvest Information

License Type:	Method				Total	Percent
	Diver	Diver/Pot	Potman	Unknown		
1) Number of Licenses Issued in 1989	4,998	3,782	4,184	0	12,964	
2) Number That Reported	3,451	2,843	3,189	0	9,483	73.15%
a) Total Number That Fished	2,875	2,400	2,694	0	7,969	61.47%
b) Total Number That Did Not Fish	576	443	495	0	1,514	11.68%
3) Number That Did Not Report	1,601	987	1,084	0	3,481	26.85%
4) Number of Lobsters Reported Landed	61,579	95,098	165,821	0	322,498	
Pounds of Lobsters (Calculated)*	78,205	120,774	210,593	0	409,572	4.42% change from 1988
5) Number Pots Fished		7,851	19,604	0	27,455	
6) Number of Hours Diving	44,450	34,403		0	78,852	

* Based on 1.27 Pounds per Lobster.

